12122 WESTERN AVENUE/GARDEN GROVE, CALIFORNIA 92645/714-893-7531 TELEX 678457

DPM 3011

SWEDLOW, INC.

JUL 12 1982

November 19, 1981

Mr. Les Boston
Douglas Aircraft
Occupational Safety &
Health Department
3855 Lakewood Blvd.
Long Beach, CA 90846
Mail Stop - 126-14

Dear Mr. Boston:

Swedlow Acrylic Sheet 350 Finish A is fully reacted material and innert in its marketed state. There are no toxic fumes or chemicals emited from this product, therefore, Material Safety Data Sheets are unavailable. However, Swedlow has conducted a series of experiments in which samples of vapors were collected within employee breathing zones during the sawing and routing of Acrivue 350 in our plant operation. Small amounts of formaldehyde and Methyl Methacrylate Monomer were found to be released during the above operations. It is therefore suggested that ventilation in the work area where Acryvue 350 is sawed or routed be evaluated and air samples analyzed, to be sure that exposure to employees is below required TWA, established by The American Conference of Governmental Industrial Hygienists. Should you encounter areas where good ventilation control is difficult, a chemical cartridge respirator with organic vapor cartridges and full facepiece, may be used to protect employees.

You will also find enclosed copies of Material Safety Data Sheets on Methyl Methacrylate Monomer and Formaldehyde.

I hope this will answer any questions you have regarding our product, however, if you need additional help, please feel free to contact me at (714) 893-7531 ext. 235.

Sincerely,

SWEDLOW, INCORPORATED

Ron Cormack

Ron Cormack

RC/bgw

Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

CELANESE CHEMICAL COMPANY

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO
CELANESE CHEMICAL COMPANY	512-584-3511

ADDRESS (Number, Street, City, State and ZIP Code): 1211 AVE. OF AMERICAS, NEW YORK, N.Y. 10036

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
Formaldehyde dissolved in Methyl Alcohol	Formcel (R) Methyl Alcohol solution 55%
CHEMICAL FAMILY: Alcoholic hemi-formals	FORMULA: $CH_3(O\text{-}CH_2)_NOH$

SECTION II — HAZARDOUS INGREDIENTS

	%	TLV (Units)		%	TLV (Units)

SECTION III — PHYSICAL DATA

BOILING POINT (°F) @ 760 mm Hg	215.6	SPECIFIC GRAVITY @ 25/25°C	1.064
VAPOR PRESSURE (mm Hg) @ 24°C	87.9	PERCENT VOLATILE BY VOLUME	45%
VAPOR DENSITY (AIR = 1)	> 1	EVAPORATION RATE	Unknown

SOLUBILITY IN WATER: Soluble

APPEARANCE AND ODOR: Clear, water-white liquid, alcoholic pungent odor.

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	FLAMMABLE LIMITS	Lel	Uel
148°F., Tag Open Cup, 112°F, Tag Closed Cup		7.0%	47.0%

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, foam or water spray.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus for indoor fires.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Unknown (Formaldehyde concentration would be overriding limit. Threshold limit value for formaldehyde is 3 ppm)

EFFECTS OF OVEREXPOSURE: Solution and/or vapor is a severe eye, skin, and respiratory irritant.

EMERGENCY AND FIRST AID PROCEDURES: Remove contaminated clothing. Flush contacted area with large volumes of water, irrigate eyes for at least 15 minutes. If swallowed, call a physician at once, give a tablespoon of salt in a glass of warm water and repeat until vomit liquid is clear. Give milk or white of egg beaten with water.

SECTION VI — REACTIVITY DATA

PRODUCT IS ☒ STABLE ☐ UNSTABLE

CONDITIONS TO AVOID
Strong alkalies and high temperatures.

INCOMPATIBILITY (Materials to avoid)

Caustics, strong alkalies, isocyanates, anhydrides, oxides, and inorganic acids.

HAZARDOUS DECOMPOSITION PRODUCTS Formaldehyde vapors are strong irritants. Thermal decomposition products - carbon dioxide and carbon monoxide.

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR

CONDITIONS TO AVOID

SECTION VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Eliminate all sources of ignition. Wear self-contained breathing apparatus. Flush thoroughly with water. Dike large spills and dump to salvage tanks. Formaldehyde content can be neutralized with NH_4OH. Notify authorities in event of major spills. Never drain into a stream or sewer. Disposal should be carried out in compliance with federal, state, and local authorities.

WASTE DISPOSAL METHOD

Chemical incinerator

SECTION VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

Wear self-contained breathing apparatus

VENTILATION

LOCAL EXHAUST
Preferable

MECHANICAL (General)
Acceptable

SPECIAL

OTHER

PROTECTIVE GLOVES
Impervious gloves

EYE PROTECTION
Chemical safety goggles

OTHER PROTECTIVE EQUIPMENT

Impervious aprons and boots; eye bath and safety shower.

SECTION IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep away from open flame. Avoid prolonged or repeated contact. Avoid prolonged breathing of vapors.

OTHER PRECAUTIONS

None

U.S. DEPARTMENT OF LABOR
Occupational Safety & Health Administration
MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: E. I. du Pont de Nemours & Co., Inc.-PP&R Dept.	EMERGENCY TELEPHONE NO.: 302 - 774-7500
ADDRESS (Number, Street, City, State, and ZIP Code): Wilmington, DE 19898	CHEM TREC 1-800-424-9300
CHEMICAL NAME AND SYNONYMS: METHYL METHACRYLATE MONOMER (MMA)	TRADE NAME AND SYNONYMS: Du Pont Methyl Methacrylate
CHEMICAL FAMILY: Methacrylate ester (inhibited)	FORMULA: $C_5H_8O_2$ $CH_2C(CH_3)COOCH_3$

CAS: Name 2-propenoic acid, 2-methyl-, methyl ester; Number 80-62-6

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS	NA		BASE METAL	NA	
CATALYST	NA		ALLOYS	NA	
VEHICLE	NA		METALLIC COATINGS	NA	
SOLVENTS	NA		FILLER METAL PLUS COATING OR CORE FLUX	NA	
ADDITIVES	NA		OTHERS	NA	
OTHERS	NA				

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Methyl methacrylate (moderate health hazard)	100	100 ppm (ACGIH/OSHA)
Substituted phenol polymerization inhibitors (8 to 110 ppm)	-	-

SECTION III PHYSICAL DATA

BOILING POINT (°F.) @ 760mm Hg	214	SPECIFIC GRAVITY (H_2O=1) 60°F./60°F.	0.950
VAPOR PRESSURE (mm Hg.) 20°C.(68°F.)	29	PERCENT VOLATILE BY VOLUME (%)	100%
VAPOR DENSITY (AIR=1) @ 60°F., 1 ATM	3.46	EVAPORATION RATE (nBuAc =1)	3.0
SOLUBILITY IN WATER g/100g, 68°F.	1.6	Freezing Point (°F.)	-54
APPEARANCE AND ODOR: Colorless liquid; characteristic acrid acrylic odor.			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 51°F. TCC	FLAMMABLE LIMITS 77°F., 1 ATM, % by vol.	Lel 2.1	Uel 12.5

EXTINGUISHING MEDIA
Chemical foam, carbon dioxide, dry chemicals, water fog (by trained personnel).

SPECIAL FIRE FIGHTING PROCEDURES
Fight fires from safe distance or protected areas. Cool containers of material exposed to heat with cold water spray. Wear NIOSH approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Sealed containers exposed to elevated temperatures may rupture explosively due to polymerization. Vapors are heavier than air and may travel to ignition source.

NOTICE FROM DU PONT

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

*For more detail, see "Du Pont Methacrylate Monomers:Storage and Handling" E-18881.

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
100 ppm (8 hr. exposure). Acute oral LD_{50}, rats: 7990 mg/kg.

EFFECTS OF OVEREXPOSURE
Liquid or high vapor concentration can irritate eyes and respiratory system, and cause skin rashes. Prolonged exposure can lead to headaches, nausea, drowsiness and unconsciousness.

EMERGENCY AND FIRST AID PROCEDURES
Eye and skin contact: Immediately flush eyes with water for 15 minutes - call physician. Wash skin with soap and water; Inhalation: Move to fresh air. Administer oxygen or give artificial respiration as required; Ingestion: Induce vomiting and get prompt medical attention.

SECTION VI REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		Heat and ignition sources; storage under inert atmosphere; contamination with foreign materials.
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)* Reducing and oxidizing agents. Material has strong solvent action and can soften paint and rubber.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR	X	Excessive heat; storage in absence of inhibitor; inadvertent addition of catalysts. See E-18881* for details on inhibitors and storage stability.
	WILL NOT OCCUR		

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Evacuate area, eliminate ignition sources, wear approved respirator for high vapor concentration and protective clothing and overshoes. Dike and absorb spills with inert material and transfer to suitable container for disposal.

WASTE DISPOSAL METHOD
Material should not be allowed to drain to sewers. Incinerate liquid in proper equipment. Absorbed material can be landfilled according to prevailing regulations. Biological digestion can be considered.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*
When vapors exceed 100 ppm, self-contained breathing apparatus like Scott Air Pak.

VENTILATION		
	LOCAL EXHAUST Sufficient to keep concentration below 100 ppm	SPECIAL
	MECHANICAL *(General)* Explosionproof exhaust at point of operations.	OTHER

PROTECTIVE GLOVES
Impervious, neoprene-type gloves

EYE PROTECTION
Splashproof goggles

OTHER PROTECTIVE EQUIPMENT Eyewash, safety shower, coveralls and overshoes.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
See E-18881*. Regulations related to storage of flammable liquids should be followed.

OTHER PRECAUTIONS
Ground all containers when transferring liquid. Permit air space to exist inside storage containers. Material stored more than 3 months should have inhibitor level checked and maintained at original level.

Revised: 11/77 BWS